

KAZANSKAYA, I. I.

137-58-1-667D

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 1, p 103 (USSR)

AUTHOR: Kazanskaya, I. I.

TITLE: An Investigation into the Major Parameters of the Process of Rolling Round Periodic Sections on Three-high Mills (Issledovaniye osnovnykh parametrov protsessa prokatki kruglykh periodicheskikh profiley na trekhvalkovykh stanakh)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Technical Sciences, presented to the Tsentr. n.-i. in-t tekhnol. i mashinostr. (Central Scientific Research Institute for Technology and Mechanical Engineering), Moscow, 1957.

ASSOCIATION: Tsentr. n.-i. in-t tekhnol. i mashinostr. (Central Scientific Research Institute for Technology and Mechanical Engineering), Moscow

1. Rolling mills--Mathematical analysis

Card 1/1

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721310018-8"

KAZANSKAYA, I. I.

PHASE II BOOK EXPLOITATION

494-II

Smirnov, V. S.; Anisiforov, V. P.; Vasil'chikov, M. V.; Granovskiy, S. P.; Kazanskaya, I. I.; Kuz'min, A. D.; Mekhov, N. V.; Pobedin, I. S.

Poperechnaya prokatka v mashinostroyenii (Cross Rolling in the Machine-building Industry) Moscow, Mashgiz, 1957. 375 p. 4,500 copies printed.

Ed. (title page): Tselikov, A. I., Corresponding Member, USSR Academy of Sciences, and Smirnov, V. S., Doctor of Technical Sciences, Professor; Ed. (inside book): Kamnev, P. V.; Ed. of Publishing House: Leykina, T. L.; Tech. Ed.: Sokolova, L. V.; Managing Ed. of the Leningrad Branch of Mashgiz: Bol'shakov, S. A., Engineer.

## INTRODUCTION

In this book, which is devoted to the study of cross rolling and helical cross-rolling processes in the Soviet machine-building industry, the authors discuss very systematically and in detail the principles, theory, and technological aspects of roll forming of balls and gears as well as die rolling of periodic shaped stock.

Card 1/30

## Cross Rolling in the Machine-building Industry

494-II

The terms cross rolling (poperechnaya prokatka) and helical cross rolling (poperechno-vintovaya prokatka) require a brief explanation here. By cross rolling, the Russians understand a rolling process in which two parallel rolls revolve in the same direction, their longitudinal axes being parallel to the axis of the work. The term helical cross rolling denotes a rolling operation between cone rolls, the axes of which are slightly inclined to opposite angles, thus producing a helical advance of the work. Die rolling in this case is a special type of helical cross rolling in which helically grooved rolls are used, instead of plain tapered ones, to produce shapes such as balls, rollers, annular shapes, periodic profiles, etc. The rolling of bearing balls is said to have already replaced the ball-pressing method in the USSR, increasing productivity 2 to 7 times, and saving 10 to 25 percent in expensive alloy steels. Gear rolling is reported to be a current development project in the USSR. Rolled gears are said to have been successfully produced to grade 3 accuracy with a grade 7 to 10 surface roughness. Methods for determining rolling forces, stresses, torque, and power, based on modern concepts of the theory of plasticity and strength of materials, are discussed, and formulas derived. All the methods involved in these rolling processes are discussed with great clarity, and case histories and specific examples are included. According to the authors, the mechanical

Card 2/30

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000721310018-8" 494-II  
Cross Rolling in the Machine-building Industry

properties of press-formed parts or of parts machined from periodic rolled stock are considerably higher than those made from conventional plain rolled stock, not to mention a 20 to 30 percent saving in material.

The development of the theoretical principles and the technological processes of cross rolling and helical cross rolling in the USSR is said to have been carried on intensively since 1942. The theory was developed by V. S. Smirnov on the basis of experiments conducted at the Ural'skiy politekhnicheskiy institut (Ural Polytechnic Institute) and later at the Leningrad'skiy politekhnicheskiy institut (Leningrad Polytechnic Institute). The development of machinery and equipment for cross rolling and helical cross rolling was supervised by A. I. Tselikov at the TsNITIMASH (Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya - Central Scientific Research Institute of Technology and Machinery). Some machine-building plants, e.g., the Gor'kovskiy avtomobil'nyy zavod (Gor'kiy Automobile Plant), have developed cross-rolling mills of their own design. The contents of this book are reviewed below, chapter by chapter.

Card 3/30

S/775/62/002/000/004/011

AUTHOR: Kazanskaya, I. I.

TITLE: Three-roll mills for the rolling of variable-section rounds.

SOURCE: Avtomatizatsiya protsessov mashinostroyeniya. t. 2: Goryachaya obrabotka metallov. Moscow, Izd-vo AN SSSR, 1962, 166-170.

TEXT: The sole practicable process for the rolling of rounds with longitudinally varying cross-section is the cross-helical rolling method developed under the direction of A. I. Tselikov, corresponding member, AS USSR. The method saves thousands of tons of metal and is fully automatable. The three-roll mills of TsKBMM (Central Design Bureau for Metallurgical Machinery, now VNIMetMash or All-Union Scientific Research Institute for the Planning and Design of Metallurgical Machinery) differ from other helical-rolling equipment as follows:  
(1) Three narrow conical or disk-shaped rolls operate against an axial pull applied to the billet, thereby exerting a deformation on a small portion of the billet and avoiding the usual defects engendered in cross-rolling; (2) the roll spacing is altered by means of 3 hydraulic cylinders actuated by a guide-profile-follower control. Conical rolls are used for a diametral reduction of up to 2, disk-type rolls serve in reductions of up to 1.6-1.7. The disk rolls simplify the mill design, shorten the leading end of the billet, and permit steeper transition from one rolled diameter

Card 1/3

Three-roll mills for the rolling of variable ...

S/775/62/002/000/004/011

to another, but consume more power. The "Mark 70" mill set up at the MZMA is used as a specific example. The billet is heated to 1,100-1,200°C, inserted into the inter-roll space, grasped by the puller, and simultaneously set into rotation by the radially approaching 3 rolls. The puller advances, and the 3 rolls (mutually linked to ensure concentricity of the resulting billet rotation) are pressed together and moved apart in response to the guide-profile-follower control. A pneumatically lifted boat receives the rolled billet and, upon release and issuance, lowers it to an inclined table. All operations are automated. The TsKBMM developed 6 types of industrial mills for this type of variable-section rolling with diameters up to 10, 20, 50, 80, 120, and 220 mm. Seven mills of the first 4 types are engaged in actual production work, 5 at the Kolomenskoye plant for textile-machinery building, 1 at the MZMA in the production of automotive semiaxles, and 1 at the plant imeni Dzerzhinskiy in Dneprodzerzhinsk. Advantages of the process: (1) 10-30% reduction in metal consumed per unit acceptable product (in comparison with forging; example illustrated: Moskvich camshaft); (2) possible reduction in machining time because of reduced machining allowances; (3) reduced workload on forging presses and hammers; (4) improved microstructural quality, finer grain, and higher fatigue strength, notch toughness, and plasticity, of the resulting shafts; (5) flexibility of equipment, since a change from one profile sequence to another entails merely the replacement of the profile guide rail; (6) high productivity, with a

Card 2/3

Three-roll mills for the rolling of variable ...

S/775/62/002/000/004/011

billet-delivery rate of 3-5 m/min, which corresponds to a delivery of 65 railroad-car axles per hr, as compared with only 50-70 axles per work shift delivered by a forge; (7) suitability for total automation. There are 3 figures; no tables or references.

ASSOCIATION: None given.

Card 3/3

KAZANSKAYA, I. I., kand.tekhn.nauk; PANFILOV, M.G., inzh.; IPPOLITOV, V.I.

Causes for the appearance of defects in helical-cross rolling  
of circular periodic shapes. Stal' 22 no.9:824-826 S '62.

(MIRA 15:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy  
institut metallurgicheskogo mashinostroyeniya.  
(Rolling (Metalwork))

DUL'KIN, N.S.; ISDAVIEVA, Ye.I.; KAVANSKAYA, I.S.

Homogeneity of xylans from the surface layers of grain. Zhur.  
prikl. khim. 38 no.1:221-222 Ja '65. (ИХРЯ 18:3)

1. Odesskiy tekhnologicheskiy institut imeni leonovosova.

MEDVEDEVA, Ye.I.; DUDKIN, M.S.; KAZANSKAYA, I.S.

Amino acid composition of some types of vegetable raw material  
not used as food. Nauch. dokl. vys. shkoly; biol. nauki no.4:  
140-144 '64. (MIRA 17:12)

1. Rekomendovana kafedroy organicheskoy khimii Odesskogo  
tekhnologicheskogo instituta.

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721310018-8

... *... Kuznetsov and I* *V. Kuznetsov*

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721310018-8"

EXCERPTA MEDICA Soc.14 Vol.12/5 Radiology May 1958

*KAZANSKAYA L.D.*  
822. RECOGNITION OF SCOLIOSIS IN SCHOOLCHILDREN BY MEANS OF FLUOROROENTGENOGRAPHY (Russian text) - Kazanskaya L.D. - VESTN. RENTGENOL. RADIOL. 1956, 6 (46-50)

720 cases of scoliosis were diagnosed among 10,000 schoolchildren from 19 schools of Yaroslav by means of fluororoentgenography. Of those 720 cases, 325 (45.1%) were in children 7-10 yr. old. In addition to the routine antero-posterior fluororoentgenogram of the chest, postero-anterior pictures of the lumbo-dorsal segment of the spine were also taken. Somewhat harder rays (85 kv., 25-30 ma.) were used and exposure time was 1-2 sec., with holding of the breath. The automatic postural correction of functional scoliosis precluded its diagnosis by fluororoentgenography. The diagnosed cases were classified according to direction, localization, configuration and degree of the scoliosis, 1st degree scoliosis being defined as deviation from the perpendicular of less than 10°, and 2nd degree more than 10°. The fluororoentgenographic data so obtained were found to correspond closely to data obtained by goniometry in a group of 100 children. Fluororoentgenography was found to be a useful procedure for the early recognition of scoliosis and for the control of treatment by remedial exercises.

Chair of Roentgenology and Radiology,  
Yaroslav Med. Inst. and Yaroslavskoy gorodskoy Flyurograficheskoy stantsii  
(zav. L. D. Kazanskaya)

KAZANSKAYA, L. N., Cand Biol Sci -- (diss) "Phosphorus metabolism in the ontogenesis of spring wheat." Leningrad, 1960. 17 pp; (Ministry of Education RSFSR, Leningrad State Pedagogical Inst im A. I. Gertsen); 250 copies; price not given; (KL, 29-60, 125)

KAZANSKAYA, L.N.

Dynamics of nucleic acids and other phosphorous-bearing compounds  
in leaves of the "Diamant" wheat during its ontogenetic development.  
Nauch.dokl.vys.shkoly; biol.nauki no.2:153-157 '60. (MIRA 13:4)

1. Rekomendovana kafedroy fiziologii rasteniy Leningradskogo sel'-  
skokhozyaystvennogo instituta.  
(WHEAT) (PHOSPHORUS METABOLISM)

KAZANSKAYA, L.N.

Using the radioisotope of phosphorus in studying phosphorus metabolism in the ontogeny of spring wheat (*Triticum vulgare* Host).  
Bot. zhur. 45 no. 7:1055-1059 Jl '60. (MIRA 13:7)

1. Leningradskiy sel'skokhozyaystvennyy institut, g. Pushkin.  
(Phosphorus metabolism)  
(Tracers (Biology))  
(Wheat)

KAZANSKAYA, L.N.

Phosphorus metabolism in the ontogeny of spring wheat. Fiziol.  
rast. 7 no.2:234-237 '60. (MIRA 14:5)

1. Leningrad Agricultural Institute, Leningrad - Pushkin.  
(Wheat)  
(Phosphorus metabolism)  
(Ontogeny (Botany))

KAZANSKAYA, Lyudmila Nikolayevna, kand. biol. nauk; YEGOROVA, A.G.,  
red.; FREGER, D.P., red. izd-va; BELOGUROVA, I.A., tekhn.  
red.

[Chemical nature and possible ways of improving the taste and flavor of bread] Khimicheskaya priroda i vozmozhnye puti uluchsheniia vкуса i aromata khleba; stenogramma doklada, prochitannogo v LDNTP na seminare rabotnikov khlebopекarnoi pronyshlennosti. Pod red. A.G. Egorovoi. Leningrad, 1962. 50 p.

(MIRA 15:9)

(Bread)

YEGOROVA, A.G.; KAZANSKAYA, L.N.; LORANOVA, A.Ya.; MELIKHOVA,  
Z.V.; BESPALOVA, I.G.; SHCHERBACH, V.A.

[Using the new yeast and lactic acid bacteria strains in  
making tin rye bread] Prigotovlenie rzhannogo formovogo  
khleba s primeneniem novykh shtammov molochnokislykh bak-  
terij i drozhzhei. Moskva, TSentr. in-t nauchno-tekhn.  
informatsii pishchevoi promyshl., 1963. 28 p.  
(MIRA 17:9)

YEGOROVA, A.G.; KAZANSKAYA, L.N.; DEMIDT, Z.I.; IAIASHVA, Ye.V.;  
BEZKUCHENKO, L.P.

[New strains of lactic acid bacteria for rye leaven preparation] Novye shtammy volochinskikh bakterii rzhanykh zakvaskov. Moskva, TSentr. in-ta nauchno-tekhn. informatsii pishchevoi promyshi., 1965. 34 p. (NIR 17:8)

PLOTNIKOV, P.N.; KAZANSKAYA, L.N.; BESPALOVA, G.I.; BEZRUCHENKO,  
L.P.; KRASIL'NIKOVA, Ye.Ye.; SHCHERBACH, V.A.; BROVKIN,  
S.I., spets. red.

[Use of liquid intermediate products in the making of wheat  
flour bread] Primenenie zhidkikh polufabrikatov pri proiz-  
vodstve pshenichnykh sortov khleba. Moscow, Tsent. in-t  
nauchno-tekhn. informatsii pishchevoi promyshl., 1963. 39 p.  
(MIRA 18:5)

L 2847-66 EWP(e)/EWT(m)/EPF(c)/EWA(d)/EWP(t)/EWP(k)/EWP(z)/EWP(b) LWP(c)

MJW/JD/WB

UR/2776/65/000/043/0081/0098

60

34

B41

ACCESSION NR: AT5022891

AUTHOR: Shchegoleva, R. P.; Reutova, N. P.; Golubeva, L. S.; Poplavskaya, V. L.  
Kazanskaya, I. N. 44,55 44,55 44,55 44,55

TITLE: Powdered-metal stainless chrome and chrome-nickel steels 18

/SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy me-tallurgii. Sbornik trudov, no. 43, 1965. Poroshkovaya metallurgiya (Powder metal-lurgy), 81-98 44,55

TOPIC TAGS: powder metallurgy, stainless steel, chromium steel, nickel steel, corrosion resistance

ABSTRACT: It is shown that the powders of stainless chrome and chrome-nickel steels in the ferritic, austenitic, and martensitic-austenitic classes, prepared by the method of the combined reduction of metal oxides by means of CaH<sub>2</sub>, are suitable for the industrial fabrication of porous and compact sheets and strips by the direct method of powder rolling. The flowsheet of production of these powders has the following sequence: raw materials -- iron powder (carbonyl and other types of Fe), chromium oxide (Cr<sub>2</sub>O<sub>3</sub>), nickel (electrolytic, carbonyl)

Card 1/3

L 2847-66

ACCESSION NR: AT5022891

2

powder or  $\text{NiO}$ ,  $\text{Ni}_2\text{O}_3$ , calcium hydride ( $\text{CaH}_2$ ); charge blending (2.5 hr); reduction at  $1175^\circ\text{C}$  for 6-8 hr,  $\text{Cr}_2\text{O}_3 + 3\text{CaH}_2 = 2\text{Cr} + 3\text{CaO} + 3\text{H}_2$ ; crushing of sinter; slaking with  $\text{H}_2\text{O}$  and pulverization; hydrocyclone treatment of pulp; leaching --  $\text{Ca}(\text{OH})_2 + 2\text{HCl} = \text{CaCl}_2 + 2\text{H}_2\text{O}$ ; washing to remove  $\text{CaCl}_2$ ; centrifuging; vacuum drying,  $60-70^\circ\text{C}$ . Sintered stainless steels display high physical properties, which warrants recommending them for the fabrication of the elements and devices performing in aggressive media. When pressed under a pressure of  $10 \text{ t/cm}^2$  and subjected to deformation and heat treatment, powdered-metal stainless steels are not inferior to steels produced by the smelting method as regards their physical properties and corrosion resistance. Thus, for example, corrosion tests of Kh18N15 stainless austenite steel in a 65% solution of boiling  $\text{HNO}_3$  demonstrated the high corrosion strength of this steel, not inferior to that of deformed cast steel (corrosion rate  $0.1-0.16 \text{ g/m}^2\text{-hr}$ ). Evidently these good qualities of powdered-metal stainless steels are attributable to the low content of impurities in the powders prepared by the combined oxide reduction method. Orig. art. has: 10 figures, 9 tables.

ASSOCIATION: none

Card 2/3

L 2847-66  
ACCESSION NR: AT5022891

SUBMITTED: 00

ENCL: 00

SUB CODE: MM

NO REF SOV: 007

OTHER: 007

BVK  
Card 3/3

ACC NR: AR6035416

SOURCE CODE: UR/0137/66/000/009/G023/G023

AUTHOR: Shishkhanov, T. S.; Rabinovich, Ye. M.; Kudinova, K. G.; Sariadi, F. S.; Kazanskaya, L. N.

TITLE: Reduction of titanium-hydride with increased hydrogen content

SOURCE: Ref. zh. Metallurgiya, Abs. 9G167

REF. SOURCE: Sb. Proiz-vo stali i splavov i vliyaniye obrabotki na nikh svoystva. Tula, 1965, 31-35

TOPIC TAGS: titanium compound, metal hydride, chemical reduction, hydration

ABSTRACT: Titanium powder reduced by Ca hydride (IMTU 987-63), titanium sponge TG-00 produced by a magnesium-thermal process (MRTU-14 no. 19-64), and electrolytic iron produced by the method of dissolved anodes, were all hydrated with  $H_2$  of 99.99% purity containing  $\leq 0.003\%$  of  $O_2$  and  $\leq 0.2 \text{ g/m}^3$  of moisture. The optimal hydration condition was determined, namely hydration temperature  $650^\circ$ , soaking at this temperature, flow of  $H_2$  of  $8 \text{ m}^3/\text{hr}$  until the end of absorption, and cooling in air at a flow of  $H_2 \leq 0.5 \text{ m}^3/\text{hr}$ . Introduction of these conditions in industry has ensured production of titanium hydride with a stable hydrogen content of 3.8 -- 3.98%, and has improved the productivity of the plant. A. Shmeleva. [Translation of abstract]

SUB CODE: 11, 07

Card 1/1

UDC: 669.295.4

ACC NR: AR700485

SOURCE CODE: UR/0137/66/000/010/G032/G032

AUTHOR: Kudinova, K. G.; Kazanskaya, L. N.; Rabinovich, Ye. M.;  
Korchagin, M. I.; Mishnayevskiy, Ye. N.

TITLE: Investigation of possibility of coarsening the grain size of titanium  
powder by gas absorption

SOURCE: Ref. zh. Metallurgiya, Abs. 10G230

REF SOURCE: Sb. Proiz-vo stali i splavov i vliyeniye obrabotki na ikh svoystva.  
Tula, 1965, 50-53

TOPIC TAGS: titanium, titanium powder, grain size, reduction

ABSTRACT: Titanium powder with a grain size of  $\geq 45\mu$  has the optimum gas  
absorbing capacity. In order to coarsen titanium powder by reducing titanium  
oxide with calcium, a finished powder of titanium metal with a grain size of  
 $\leq 10\mu$  was added to the charge as the finished crystallization centers. By  
adding up to 8% titanium powder to the charge, the yield of the coarse-grained  
fraction of the reduced titanium increases up to 48%; further additions of titanium

Card 1/2

UDC: 621.762.2.01:660.205

Card 2/2

KAZINSKAYA, L.S., inzh.

Air conditioning of capron factories. Vod. i san. tekhn. no. 9:16-  
20 S '65. (MIRA 18:9)

KAZANSKAYA, L.S.

Basic indices of air-conditioning systems for public and municipal  
buildings. Vod. i san. tekh. no.12:20-24 D '58. (MIRA 11:12)  
(Public buildings--Air conditioning)  
(Municipal buildings--Air conditioning)

ROMANOVSKIY, R.M.; KAZANSKAYA, M.V.; LIPMANOVICH, S.G.

Outcome of labor complicated by anomalies in its intensity for the  
mother and fetus. Vop. okh. mat. i det. 6 no.10:58-63 0 '61.

(MIRA 14:11)

1. Iz kafedry akushерstva ginekologii (zav. - prof. I.I.Yakovlev)  
I Leningradskogo meditsinskogo instituta imeni akademika I.P.Pavlova  
(dir. A.I.Ivanov).

(LABOR, COMPLICATED)

Mechanism of combination of copper and chromium with the sulfur dye Khaki 50. S. S. Rakhilina and M. N. Kazanskaya. *Izdat. Prom. S., No. 7/8, 33-4 (1940).* The purpose of this investigation was to ascertain the optimum conditions for combining Cu and Cr with the S dye Khaki 50. The investigation was carried out with raw (unbleached) and bleached, undyed and dyed cotton fabric (moleksin). Temp., 40-100°, did not affect the quantity of Cu (0.04%) combined with bleached undyed

fabric. The quantity of Cu combined with dyed fabric increased up to 80° (40°, 10, 40°, 0.22, and 80°, 0.31%), and then changed slightly (at 100°, 0.32%). The quantity of Cr combined with dyed fabric rose from 0.10% at 40° to 0.40% at 100°. The duration of treatment had very little effect on the quantity of Cu combined with bleached dyed fabric. After 1 min. the quantity of Cu combined was 0.32%, after 3 min. it was 0.34%, and after 30 min. it remained 0.31%. Cr combined more slowly; it increased rapidly in the first 10 min. (from 0.17 to 0.26%) and then rose more slowly, after 13 min. 0.28%, after 30 min. 0.31% (and of test, limit not reached). The combination of Cr was favored by an acid medium. Cu combined in greater quantities the closer the pH of the bath approached neutral. AcOH usually used in the mordant bath was effectively replaced by  $H_2SO_4$ . More Cu or Cr combined with dyed fabric than with undyed (0.84 vs. 0.12% for Cu and 0.29 vs. 0.02% of Cr).

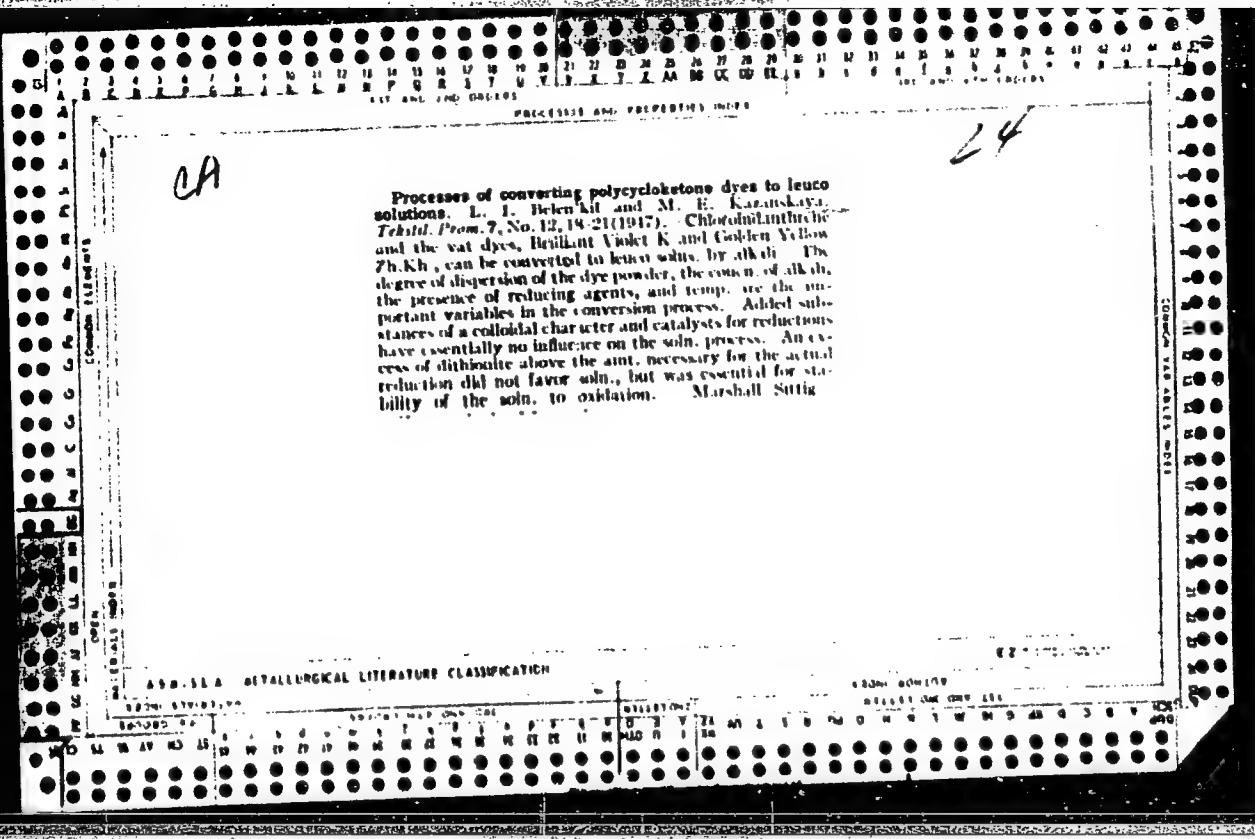
Also more metal was retained with raw than with bleached moleskin (cf. C. A. 33, 30849). Expts. were further carried out on the quantity of metal combined with fabrics dyed in various concns. of the dye (1-30%). The quantity of metal remaining on the fabric increased as the concn. of the dye in which the fabric was dyed increased (Cu from 0.005 to 0.40%, and Cr from 0.07 to 0.42%). Varying the concn. of the mordanting salt (1-29 g. per l.) did not affect the quantity of metal on the fabric. Cu and Cr were absorbed from their bath, replacing one another. Which of the metals was absorbed preferentially was determined by conditions favoring one or the other. This is taken to indicate that they occupy the same position in the dye mol. Cu or Cr absorbed by a fabric were washed out most easily from an undyed bleached fabric, not so easily from an undyed raw fabric, and hardest from a dyed fabric. Cu and Cr combine with the dye to form complexes. On undyed raw fabrics they combine less tenaciously with the impurities in the cellulose. The weakest combination they form with cellulose as is seen from the behavior of these metals on undyed bleached moleskin. M. Hoseh

AM-SEA METALLURGICAL LITERATURE CLASSIFICATION

www.oxford-university-press.com/elt/

APPROVED FOR RELEASE: 06/13/2000

**CIA-RDP86-00513R000721310018-8"**



**The consumption of sodium sulfide and sodium hydroxide in the reduction of sulfur colors.** S. S. Rakhim and M. E. Karashkova. *Vestn. Prom. Promst. 7, No. 7, 21 (1915).* The consumption of Na<sub>2</sub>S varied with the particular dye involved and with the ratio of dye to

reducing agent. At a ratio of dye to Na<sub>2</sub>S of 1:1, consumption of Na<sub>2</sub>S decreased with increasing ams. of dye. At const. dye concn., the consumption of Na<sub>2</sub>S increased with an increase in Na<sub>2</sub>S content of the dye soln. The addition of NaOH to the bath had no effect. Further study was stated to be necessary. Marshall Suttig

CA

26

#### ASA-110 METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721310018-8"

84

Automatic regulation of the concentration of solutions of sodium hypochlorite. L. I. Belenky, M. E. Kannalaya, and N. V. Kasyuk (Tehn. prom., 1960; Nef. 2, 26-29). Experiments on the automatic electrical control of NaOCl concn. in bleach liquor are described, based on the linear relation between sp. conductivity and concn. of active HCl. A full-scale installation is described briefly.  
E. B. UVAROV.

BELEN'KIY, L.I.; KAZANSKAYA, M.Ye.

Colorimetric analysis of stable diazo salts and solutions. Tekstil'. Prom.  
12, No.11, 37 '52.  
(MIRA 5:11)  
(CA 47 no.22:12131 '53)

SELEVN'KIY, L.I., KALINSKAYA, M.YE.

Sodium Hyposulfite

New method of analyzing hydrosulfite, Tekst. prom. 12, No. 6, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952, Unclassified.

KAZANSKAYA, M.; BIELENKIJ, L.

Controlling processes of dyeing with vat dyes. Tr. from the Russian.

p. 144  
Vol. 8, no. 5, Sept./Oct. 1954  
PRZEMYSŁ WŁOKIENNICY  
Łódź

SO: Monthly List of East European Accessions (EEAL), LC, Vol. 5, no. 2  
Feb. 1956

KAZ BAKSKY

*✓* A new method for the analysis of dithiobenzene dyes, L. I. Belenkoff and M. E. Karanikova, *Praktika* 9, 55-60 (1954). The method, which is applicable to numerous dithiobenzene dyes, including those contg. keto compds. (Amaranth, C. I. 184), which in neutral or alk. soln. is reduced to amphthemic acid and amino-R-acid, while the  $\text{Na}_2\text{S}_2\text{O}_4$  is oxidized to  $\text{NaHSO}_3$ . A measured amt. of the  $\text{Na}_2\text{S}_2\text{O}_4$  soln. is added to a known vol. of a 2% g./l. soln. of the dye, the quantities being so chosen that the dye is in excess. After suitable diln., the unreacted Acid Red is detd. with the photoelectric colorimeter. When leuco vat dyes are present in the soln., it is necessary to filter off the pptd. vat pigments before dilg. and estg. The operations should be carried out within 0.5 hr. to avoid a further reduction by the sulfite present. Details of standardization are given.

W. B. Matthews

KAZANSKAYA, M.E.

3

(2)

Control of vat dyeing. I. V. Belen'kil and M. E. Kazanskaya. *Tekstil. Prom.* 14, No. 2, 20-4 (1954); *cf. C.A.* 47, 68204. --The vat-dyeing process (1 or 2 phase) can be controlled by detg. NaOH, NaHSO<sub>3</sub>, and the dye concns. in the leuco sola, or in the suspension and the amt. of the dye on the fiber with the help of a photoelectric colorimeter, potentiometric titration, and a pH meter. Elisabeth Barabash

16-15-54  
7-14

KAZANSKAYA, M. Ye.

BELEN'KIY, L.I.; KAZANSKAYA, M.Ye.; KHAZANOV, V.S.; YUROV, S.G.

Testing the whiteness of fabrics with a PT-1 textile photometer.  
Tekst.prom. 15 no.4:43-47 Ap '55. (MIRA 8:5)  
(Photometry) (Textile fabrics--Testing)

KAZANSKAYA, M.Ye

PRIKHOT'KO, A.F.  
 24(7) p 3 PHASE I BOOK EXPLOITATION SCV/1365  
 L'vov. Universitet

Materialy X Vsesoyuznogo soveshchaniya po spektroskopii. t. 1:  
 Molekul'arnaya spektroskopiya (Papers of the 10th All-Union  
 Conference on Spectroscopy. Vol. 1: Molecular Spectroscopy)  
 [L'vov] Izd-vo L'vovskogo univ-ta, 1957. 499 p. 4,000 copies  
 printed. (Series: Its: Fizichnyy sbirnyk, vyp. 3/8/)

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po  
 spektroskopii. Ed.: Dzzer, S.L.; Tech. Ed.: Saranyuk, T.V.;  
 Editorial Board: Lavastens, G.S., Academician (Resp. Ed., Deceased),  
 Reporen, B.S., Doctor of Physical and Mathematical Sciences,  
 Pabelinskii, I.L., Doctor of Physical and Mathematical Sciences,  
 Fabrikant, V.A., Doctor of Physical and Mathematical Sciences,  
 Kornitashv, V.G., Candidate of Technical Sciences, Rayskiy, S.N.,  
 Candidate of Physical and Mathematical Sciences, Klimovskiy, L.K.,  
 Candidate of Physical and Mathematical Sciences, Kiliyanchuk, V.S.,  
 A. Ye., Candidate of Physical and Mathematical Sciences, and Glazberman,  
 Candidate of Physical and Mathematical Sciences.

Card 1/30

Babushkin, A.B., A.V. Uvarov, and L.A. Ignat'yeva. Infrared Spectroscopic Study of the Adsorption and Surface Reactions of Ethyl and Methyl Alcohols on Aluminum Oxide	161
Sidorchuk, A.N. Study of Absorption on Porous Glass by Means of Infrared Absorption Spectra	167
Belen'kiy, L.I., M.Ye. Kazanskaya, et al. Spectro- photometric Study of Vat Sois	170
Sidorchuk, T.A., and N.N. Sobol'ev. Isotopic Shift in the Infrared Spectrum of Boric Acid, and Its Structure	176
Sheynker, Yu. N. Spectra and Tautomerism of Acylated Heterocyclic Amines	180
Pestovskiy, I. Ya., Yu. N. Sheynker, and M.P. Kazarinova. Spectroscopic Study of 9-oxyarylaclidines	183

Card 12/30

*Kazanskaya, M.Ye.*

BELEN'KIY, L.I.; KAZANSKAYA, M.Ye.; YAVORSKIY, B.M.; KAMENETSKIY, V.D.

Spectrophotometric analysis of leuco esters (with summary in English). Zhur.fiz.khim.31 no.7:1564-1572 J1 '57. (MIRA 10:12)

1. Institut khlopcchato-bumazhnoy promyshlennosti, Moskva.  
(Spectrophotometry) (Esters)

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721310018-8

BELEN'KIY, L. I.; KAZANSKAYA, M. Ye.; BRÖMBERG, T. V.

"Work in the Field of Dyestuff Absorption Spectra."

report presented at the Section on Colloid Chemistry, VIII Mendeleyev Conference of General and Applied Chemistry, Moscow, 16-23 March 1959.  
(Koll. Zhur. v. 21, No. 4, pp. 509-511)

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721310018-8"

BELEN'KIY, L.I.; BROMBERG, T.V.; KAZANSKAYA, M.Ye.

Spectrophotometric method of quantitative analysis of the  
interaction between dyes and textile fibers. Nauch.-issl.  
trudy TSNIKHBI za 1958 g. 115-123. (MIRA 16:1)  
(Dyes and dyeing—Textile fibers) (Spectrophotometry)

BELEN'KIY, L.I.; BROMBERG, T.V.; KAZANSKAYA, M.Ye.

Radiochemical oxidation of vatsol dyes. Nauch.-issl.trudy  
TSNIKHBII za 1958 g.123-144. (MIRA 1631)  
(Dyes and dyeing--Chemistry)

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721310018-8

Kazanskaya N. F.

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721310018-8"

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721310018-8

sample analyzed, giving the values of all the products present at any given instant. In the products the content of cyclohexane, cyclohexanol, cyclohexanone, adipic acid, and CO<sub>2</sub>, and the relative activity of H<sub>2</sub>D, obtained by methods

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721310018-8"

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721310018-8

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721310018-8"

AUTHORS:

Berezin, I. V., Kazanskaya, N. F., Meluzova, G. B.

SOY 76-32-6-5/46

TITLE:

A Method of the Quantitative Analysis of Cyclohexanone and Cyclohexanol in Oxidation Products of Cyclohexane by Means of Infrared Absorption Spectra (Metod kolichestvennogo analiza tsiklogeksanova i tsiklogeksanola v produktakh okisleniya tsiklogeksana po spektrum pogloshcheniya v infra-krasnoy oblasti)

PERIODICAL:

Zhurnal fizicheskoy khimii, 1958, Vol. 32, Nr 6, pp. 1218-1225 (USSR)

ABSTRACT:

A method of analysis serving in a number of kinetic investigations was developed. An infrared spectrometer of the type IKS -1 with automatic recording equipment EPP 09 and with cuvettes of special construction was used. A description of the apparatus and a schematic figure are given. By making use of the different intensity of the spectral bands the analysis could be conducted in such a way as to determine ketone and alcohol in the same cuvette, which is important because of the small amount of sample substance. The determina-

Card 1/3

SOV/ 76-32-6-5/46

A Method of the Quantitative Analysis of Cyclohexanone and Cyclohexanol  
in Oxidation Products of Cyclohexane by Means of Infrared Absorption Spectra

tion of the concentration of the substances was conducted according to the law by Lambert-Beer, employing the extinction coefficient. At higher concentrations of alcohol the sample had to be diluted. A comparison of the results obtained with that of other methods showed that the determination is not disturbed by the presence of peroxides. On the other hand, a ketone is present in the sample, the cyclohexanone. The presence of other oxidation products does not disturb its determination. A hydration is proposed in order to prevent an increase of the results caused by the influence of substantial amounts of esters and acids. In order to be able to determine the ester content, the extinction coefficient of the carbonyl band was approximately determined, as well as of the mono- and dicyclohexyl esters of adipic acid. The analysis as to contents of ketones and esters in the oxidation mixture can only be conducted at optical densities below 0,3, where the spectral bands separate from each other, in case they are present simultaneously. There are 5 figures, 4 tables, and 8 references, 4 of which are Soviet.

Card 2/3

SOV/ 76-32-6-5/46

A Method of the Quantitative Analysis of Cyclohexanone and Cyclohexanol  
in Oxidation Products of Cyclohexane by Means of Infrared Absorption Spectra

ASSOCIATION: Moskovskiy gosuniversitet im. M. V. Lomonosova  
(Moscow State University imeni M. V. Lomonosov)

SUBMITTER: September 14, 1956

1. Cyclohexanones--Quantitative analysis 2. Cyclohexanols--Quantitative analysis  
3. Cyclohexanes--Reduction 4. Infrared spectrum

Card 3/3



KAZANSKAYA, N. F. Cand Chem Sci -- (diss) "Study of the conversions of intermediate products during the oxidation of cyclohexane in liquid phase." Mos, 1959. 10 pp (Mos State Univ im M. V. Lomonosov. Chem Faculty. Chair of Chemistry of Kinetics), 150 copies. (KL, 41-59, 103)

5(4)  
AUTHORS:

Berezin, I. V., Kazanskaya, N. F.

sov/2o-126-3-38/69

TITLE:

The Sequence of the Formation of Products in the Case of the  
Liquid Acidification of Cyclohexane in Steel Vessels (Posle-  
dovatel'nost' obrazovaniya produktov pri zhidkofaznom okis-  
lenii tsiklogeksana v stal'nom sosude)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 3,  
pp 594 - 597 (USSR)

ABSTRACT:

It is said in the introduction that the essential part of the products of the acidification of hydrocarbons is formed by the decomposition of hydrogen peroxide. A scheme is given of a possible acidification of cyclohexane in the liquid state, after which a method is suggested for the synthesis of a radioactive hydrogen peroxide of cyclohexyl. This method is explained on the basis of the aforementioned scheme. The general radioactivity of the product is given in formula (1) as a function of molar radioactivity, and by formula (2) the time-dependent variation of radioactivity is given. From these formulas, formula (5) is then developed for the rate at which the molar radioactivity of cyclohexane increases. The experi-

Card 1/2

The Sequence of the Formation of Products in the Case of SOV/20-126-3-38/69  
the Liquid Acidification of Cyclohexane in Steel Vessels

ments were carried out in a steel vessel at 140°C and at a pressure of 10 at, and figure 1 shows the curve of the products in dependence on time. A further diagram (Fig 2) shows the variation with respect to time of molar activity, and table 1 shows the rate of the formation of alcohol at various points of time. Finally, the obtaining of cyclohexanyl is briefly discussed. There are 2 figures, 1 table, and 10 references, 6 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova  
(Moscow State University imeni M. V. Lomonosova)

PRESENTED: January 29, 1959, by N. N. Semenov, Academician

SUBMITTED: January 27, 1959

Card 2/2

5(4),5(3)

SOV/20-106-4-33/82

AUTHORS:

Berezin, I. V., Kazanskaya, N. P., Privalov, V. F.

TITLE:

Degenerate Branching Mechanism on Liquid-phase Oxidation of Cyclohexane in a Steel Container (O mekhanizme vyrozhdennykh razvetyleniy pri zhidkofaznom okislenii tsiklogeksana v stal'nom sosude)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 4, pp 809-812 (USSR)

ABSTRACT:

The authors investigated the oxidation process of cyclohexanone during oxidation of cyclohexane in the liquid phase. The carefully purified cyclohexane was oxidized with air under a pressure of 10 atmospheres at 142°, 150° and 157° in a steel container. In the reaction mixture, cyclohexanone, cyclohexanol and hydroperoxide cyclohexyl were analyzed quantitatively (Ref 2). The kinetic curves of the products of oxidation at 150° and those of cyclohexanone are given in figure 1 at all three temperatures investigated. After a certain time cyclohexanone was added to oxidizing cyclohexane the former of which was marked by radioactive carbon in the carbonyl group. Subsequently samples of oxidized cyclohexane were taken and after precipitation of cyclohexanone as 2,4-dinitro phenylhydrazone the

Card 1/4

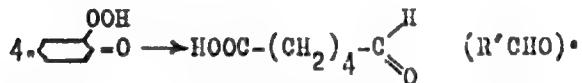
Degenerate Branching Mechanism on Liquid-phase  
Oxidation of Cyclohexane in a Steel Container

SOV/20-126-4-33/62

specific radioactivity of the latter determined. On the basis of the analysis results the authors suggest the following mechanism for the reaction investigated: The molecules of cyclohexane are first attacked by free cyclohexylperoxide radicals, thus causing that a hydrogen atom in  $\alpha$ -position to the keto group of cyclohexanone is separated:



The forming keto radical forms an  $\alpha$ -keto hydroperoxide in rapidly proceeding conversions, which easily decomposes whereby monoaldehyde of adipic acid is formed (Ref 8):



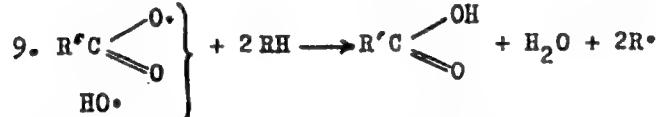
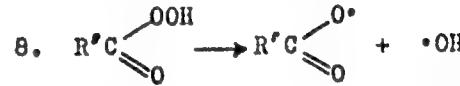
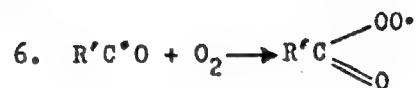
Card 2/4

This monoaldehyde is easily oxidized under the formation of

. Degenerate Branching Mechanism on Liquid-phase  
Oxidation of Cyclohexane in a Steel Container

SOV/20-126-4-33/62

acylhydroperoxide, which decomposes at once, thus forming 2 new radicals:



The sequence of reactions 1-9 is so rapid that there are no measurable quantities of hydroperoxide of cyclohexanone, of the monoaldehyde of adipic acid and of peradipic acid in the system. As a result of all 9 equations it was found that instead of the used up radical  $ROO \cdot$  three new radicals are forming which may react with oxygen:

Card 3/4



. Degenerate Branching Mechanism on Liquid-phase  
Oxidation of Cyclohexane in a Steel Container

SOV/20-126-4-33/62

The velocity of the ramification is given by the velocity of equation 2, which practically proceeds from left to right. If, however, there are by-reactions, the velocity of ramification is smaller than the velocity of oxidation of cyclohexanone. The velocity of oxidation of cyclohexanone is, according to the above considerations, of second order which is in good agreement with experimental data. The small value of the experimentally found activation energy (24 kcal per mol) agrees well with the character of the elementary reaction. There are 2 figures, 1 table, and 10 references, 8 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova  
(Moscow State University imeni M. V. Lomonosov)

PRESENTED: January 29, 1959, by N. N. Semenov, Academician

SUBMITTED: January 27, 1959

Card 4/4

5.4300

1273 1160 12<sup>L</sup>1287537  
S/079/60/030/012/023/027  
B001/B064AUTHORS: Berezin, I. V., Kazanskaya, N. F. and Martinek, K.TITLE: Reactivity of Toluene Bonds in the Interaction With Free  
Methyl Radicals

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 12, pp.4092-4093

TEXT: The authors investigated the reactivity of tritium atoms in different positions in the toluene molecule, in the reaction of the latter with free methyl radicals. The reaction proceeded by thermal decomposition of acetyl peroxide in a medium of toluenes tagged with tritium, at a temperature between 60-96°C (Ref.1). The methane formed was separated from the other reaction products and toluene, pumped into the counter, where its radioactivity was determined. The specific radioactivity of the toluene used in the experiments was determined in the same counter. The radioactivity of the toluene used for the experiments has the following ratio:  $I_m/I_{tol} = K_i^T/K_\sigma^H$ , where  $K_i^T$  = the constant for the velocity with which the  $CH_3$  radical separates tritium in the position  $i$ ;  $K_\sigma^H$  = the total

Card 1/3

87537

## Reactivity of Toluene Bonds in the Interaction With Free Methyl Radicals

S/079/60/030/012/023/027  
B001/B064

constant for the separation of the hydrogen atoms from the toluene molecule (Ref.2). Since  $K_{\sigma}^H$  is independent of the character of tagging, it is possible to determine by this formula the ratio between the rate constants of the reactions of the methyl radical with C - T bonds in different positions. The relative rate constants, the differences of the activity energies, and the ratio of the factors of the exponential function, the separation reactions of the tritium atoms and hydrogen on different bonds of the toluene molecule by free methyl radicals were determined. It was shown that the growth of the methane activity forming in the interaction of methyl and toluene, which is tagged with tritium in the cycle, is due to the addition of methyl to the  $\pi$ -bonds and the formation of products containing mobile tritium atoms. The following data are listed:

tagged with T	$K_i^T / K_n^T$ at 85°C	$\Delta E = E_i^T - E_{CH_3}^H$ (cal/mole)	$A_i^T / A_{CH_3}^H$
ortho-	0.76	4750 $\pm$ 100	1 $\pm$ 0.15
meta-	0.22	7900 $\pm$ 250	23 $\pm$ 8
para-	1	4800 $\pm$ 100	1.4 $\pm$ 0.12
CH <sub>3</sub> group	156	2200 $\pm$ 100	1.8

Card 2/3

Reactivity of Toluene Bonds in the Inter-  
action With Free Methyl Radicals

87537  
S/079/60/030/012/023/027  
B001/B064

There are 1 table and 3 references; 2 Soviet and 1 US.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State  
University)

SUBMITTED: January 26, 1960

X

Card 3/3

31549  
 S/081/61/000/022/020/076  
 B102/B108

11.1510  
 AUTHORS:

Berezin, I. V., Kazanskaya, N. F.

TITLE:

The problem of determining the relative reactivity of free radicals

PERIODICAL:

Referativnyy zhurnal. Khimiya, no. 22, 1961, 146, abstract 22Zh35 (Sb. nauchn. rabot. Inst. Fiz.-organ. khimii AN BSSR, no. 8, 1960, 88-92)

TEXT: The determination of the reactivity of two radicals in the reactions  $R^{\cdot\cdot} + HX \xrightleftharpoons[k_0^{\cdot\cdot}]{k_n^{\cdot}} R^{\cdot}H + X^{\cdot}$  and  $R^{\cdot\cdot} + HX \xrightleftharpoons[k_0^{\cdot\cdot}]{k_n^{\cdot\cdot}} R^{\cdot\cdot}H + X^{\cdot}$  leads to the determination of the ratio  $k_n^{\cdot\cdot}/k_n^{\cdot}$ . Usually, the ratio of the reaction rate constants of the inverse processes is easily found. The problem is reduced to finding  $k_n^{\cdot\cdot}/k_n^{\cdot}$  from the known ratio  $k_0^{\cdot\cdot}/k_0^{\cdot}$ . Since the equilibrium constants of these processes are  $k_p^{\cdot\cdot} = k_n^{\cdot\cdot}/k_0^{\cdot\cdot}$  and

Card 1/2

31549  
 S/081/61/000/022/020/076  
 B102/B108

The problem of determining the...

$k_p^{\cdot\cdot} = k_n^{\cdot\cdot}/k_0^{\cdot\cdot}$ .  $k_n^{\cdot\cdot}/k_n^{\cdot} = k_0^{\cdot\cdot}/k_0^{\cdot} \cdot k_p^{\cdot\cdot}/k_p^{\cdot}$ , where  $k_0^{\cdot\cdot}/k_0^{\cdot} = \lambda$ , is known.

Under certain assumptions the authors find the relation

$k_n^{\cdot\cdot}/k_n^{\cdot} = \lambda \sigma^{1/2} R^{\cdot\cdot}H^0 R^0 H^0 R^0 \exp[-(D_{R^{\cdot\cdot}H^0} - D_{R^0H^0})/RT]$  by expressing the

equilibrium constants through the statistical partition function. When the number of symmetries  $\sigma$  equals unity,  $k_n^{\cdot\cdot}/k_n^{\cdot} = A_0^{\cdot\cdot}/A_0^{\cdot} \exp[-(E_n^{\cdot\cdot} - E_n^{\cdot})/RT]$ , where  $E_n^{\cdot\cdot} - E_n^{\cdot} = E_0^{\cdot\cdot} - E_0^{\cdot} + D^{\cdot\cdot} - D^{\cdot}$ . The reaction of toluyl radicals of

various structures with  $CH_3T$  is given as an illustrating example.

[Abstracter's note. Complete translation]

BEREZIN, I.V.; KAZANSKAYA, N.F.; MARTINEK, K.

Reactivity of toluene bonds in the interaction with free methyl  
radicals. Zhur. ob. khim. 30 no.12:4092-4093 D '60. (MIRA 13:12)

1. Moskovskiy gosudarstvenny universitet.  
(Radicals (Chemistry)) (Toluene)

11.1510  
11.0132.

25123  
S/081/62/000/004/004/087  
B149/B101

AUTHORS: Berezin I. V., Vatsek K., Kuo-Ch'u, Dobish O.,  
Kazanskaya N. F.

TITLE: Investigation of the kinetics of elementary free-radical  
reactions in the liquid phase using tritium

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 4, 1962, 62, abstract  
4B429 (Tr. po khimii i khim. tekhnol. [Gor'kiy] no. I, 1961,  
18-30)

TEXT: The reactivity (R) of cis-decalin (I) and trans-decalin (II) in the  
reaction with free radical  $\text{CH}_3$ , generated by decomposition of acetyl  
peroxide at  $55-90^\circ\text{C}$  was investigated with the help of tritium (T). The  
rate of reaction of I and II with  $\text{CH}_3$  was measured with reference to the  
standard reaction of breaking off a T atom from tritium-containing  
cyclohexane by the  $\text{CH}_3$  radical. The ratio of the rate constants for the  
reactions between  $\text{CH}_3$  and I and II is 1.56. The relative R of T atoms,

Card 1/2

Investigation of the kinetics of ...

S/081/62/000/004/004/087  
B149/B101

substituted in toluene in the ortho, meta, and para positions and in the  
 $\text{CH}_3$  group has been determined. The probable mechanism of the reaction  
between the  $\text{CH}_3$  radical and the T atom in the hydroxyl group in trimethyl  
carbinol is considered and the abnormally high value of the factor of the  
power function and of the activation energy of this process is explained.  
The possibility of using T for approximate determination of the relative  
R of free radicals is demonstrated. [Abstracter's note: Complete transla-  
tion.]

BEREZIN, I.V.; KAZANSKAYA, N.F.; MARTINEK, K.

Reactivity of toluene bonds in the reaction with free methyl  
radicals. Zhur.fiz.khim. 35 no.9:2039-2046 '61. (MIRA 14:10)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.  
(Toluene) (Radicals (Chemistry))

ANTONOVSKIY, V.L.; BEREZIN, I.V.; KAZANSKAYA, N.F.

Use of tritium for determining the relative constants of the rate of detachment of hydrogen atoms in organic compounds. Relative reactivity of carbon-hydrogen bonds of hydrocarbons in radical reactions. Iav.vys.ucheb.zav.; khim.i khim.tekh. 5 no.1:94-100 (MIRA 15:4) '62.

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova, kafedra khimicheskoy kinetiki.  
(Hydrogen bonding) (Hydrocarbons) (Radicals (Chemistry))

DERING, V. [Doering, W.v.E.], prof.; KAZANSKAYA, N.F. [translator]

Cope rearrangement and problems involved in it. Zhur. VKHO 7  
no.3:308-317 '62. (MIRA 15:6)  
(Chemical structure)

BEREZIN, I.V.; KAZANSKAYA, N.F.

Kinetic isotopic effect of secondary tritium atoms of the  
n.heptane-t molecule in the liquid phase reaction with free  
methyl radicals, and the reactivity of 4-C - T bonds. Zhur.  
fiz.khim. 36 no.8:1800-1802 Ag '62. (MIRA 15:8)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.  
(Tritium) (Heptane) (Radicals (Chemistry))

HEREZIN, I.V.; VATSEK, K.; KAZANSKAYA, N.V.

Interaction of free methyl radicals with the hydroxyl hydrogen atoms of tertiary butyl alcohol. Role of hydrogen bonds. Dokl. AN SSSR 144 no.1:139-142 My '62. (MIRA 15:5)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.  
Predstavлено академиком N.N.Semenovym.  
(Radicals (Chemistry)) (Butyl alcohol) (Hydrogen bonding)

ACCESSION NR: AP4011444

S/0076/64/038/001/0125/0129

AUTHORS: Berezin, I. V. (Moscow); Kazanskaya, N. F. (Moscow);  
Pentin, Yu. A. (Moscow)

TITLE: Spatial structure and reactivity of the C-H bonds in 2,2,4-trimethylpentane

SOURCE: Zhurnal fiz.khim, v. 38, no. 1, 1964, 125-129

TOPIC TAGS: trimethylpentane, C-H bonds, spatial structure, C-T bonds

ABSTRACT: Using tritium tagging, the relative activity of different C-T bonds in a 2,2,3-trimethylpentane molecule was investigated. The results of this study indicate that the molecules of this compound at 60-90°C are in the form of a conformation isomer where the C-H bond of the tertiary carbon atom is strongly screened. During the study, the rate constant of the methyl radical interaction with the C-T bond of the 2,2,4-trimethylpentane tagged in certain position, and the ratio of this rate to the rate constant of its interaction with the whole

Card 1/2

ACCESSION NR: AP4011444

molecule (equal to the ratio of specific radioactivity of methane formed in the reaction to the specific radioactivity of the initial hydrocarbon), as well as the temperature dependence of this ratio, were measured. By determining the C-T reactivity and making some assumptions, the C-H reactivity could be evaluated. In the course of this work, 2,2,4-trimethylpentane-4-T and -3-T were synthesized, and their infrared spectra were recorded with a UR-10 spectrometer. The spectra of combined diffusion were also recorded with DFS-12 spectrometer. It was concluded that 2,2,4-trimethylpentane both in the liquid and crystalline states exists in a single conformation state. Orig. art. has 3 Figures, 1 Table.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 25Mar63

DATE ACQ: 14Feb64

ENCL: 00

SUB CODE: CH

NR REF Sov: 009

OTHER: 005

Card 2/2

ACC NR: AP7012424

SOURCE CODE: UR/0189/66/000/003 0029 0034

AUTHOR: Koler, V.; Kazanskaya, N. F.; Berezin, I. V.

ORG: Department of Chemical Kinetics, Moscow State University (Kafedra khimicheskoy kinetiki moskovskogo gosudarstvennogo universiteta)

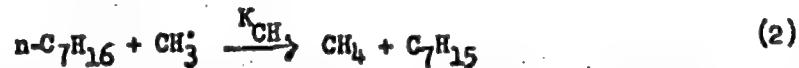
TITLE: Reactivity of hydrogen in the hydroxyl groups of CH sub 3 OH, iso-C sub 3 H sub 7 OH and (CH sub 3) sub 3 COH in reaction with free methyl radicals in the liquid phase

SOURCE: Moscow, Universitet. Vestnik. Seriya II. Khimiya, no. 3, 1966, 29-34

TOPIC TAGS: hydroxylgroup, methyl alcohol, liquid nitrogen

SUB CODE: 07

ABSTRACT: The method of competing reactions was used to determine the rate constants of the following elementary reactions in the liquid phase:



Card 1/2

UDC: 541.124/128  
0932 1364

ACC NR: AP7012424

where  $R = \text{CH}_3, (\text{CH}_3)_2\text{CH}$  and  $(\text{CH}_3)_3\text{C}$ .

In addition, the reactivity of methyl alcohol in reaction with methyl radicals without solvent was studied.

The  $\text{CH}_3\text{T} - \text{CH}_4$  mixture formed in the experiments was separated from the remaining reaction products by freezing with liquid nitrogen, and its specific

radioactivity  $I_m$  (pulses $\cdot\text{mm}^{-1} \text{ min}^{-1}$ ) was measured in an internal-filling counter. The specific radioactivity of the original alcohols  $I_{cn(\text{alc})}$  was measured with the same counter. Orig. art. has: 2 figures, 3 formulas and 4 tables.

[JPRS: 40,422]

2  
2

EXCERPTA MEDICA Sec 10 Vol.11/8 Obstetrics Aug 23

1280. COURSE AND MANAGEMENT OF MULTIPLE PREGNANCIES (Russian text) - Kazanskaya N. I. - SOVET. MED. 1957, 1/2 (30-35)

The course of multiple births in 290 women is analysed. Premature births were observed in 158 cases (54.4%). Diagnosis of multiple pregnancy was made before admission to hospital only in 85 women (29.3%). The author recommends a wider use of roentgenography for early diagnosis of multiple pregnancies. (S)

Chair of Obstetrics and Gynecology, 1st. Leningrad Med. Inst.  
im. I. P. Pavlov

KAZANSKAYA, N. I.

VARSHAVSKAYA, F. B., KAZANSKAYA, N. I., LIPMANOVICH, S. O.

Course and outcome of abnormal labor [With summary in English].  
Akush. i gin. 34 no.2:40-44 Mr-Ap '58 (MIRA 11:5)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000721310018-8"

1. Iz kafedry akusherskva i ginekologii (zav. - prof. I. P. Pavlova, Yakovlev) I Leningradskogo meditsinskogo instituta imeni akad.

I. P. Pavlova.

(LABOR, compl.  
abnorm. labor, etiol. and course (Rus)

BULAVINTSEVA, A.I., kand. med. nauk; KAZANSKAYA, N.I., kand.med. nauk; KASHINSKIY, A.V., kand. med. nauk; LIPMANOVICH, S.G., kand. med. nauk; MAREUT, Ye.I., kand. med. nauk; POKROVSKIY, V.A., zssluzhennyy deyatel' nauki RSFSR, prof.; ROMANOVSKIY, R.M., kand. med. nauk; TUMANOVA, Ye.S., prof.; YAKOVLEV, I.I., zasluzhennyy deyatel' nauki RSFSR, prof.; LANKOVITS, A.V., prof., nauchnyy red.; PERSIANINOV, L.S., prof., otv. red.; BEKKER, S.M., prof., red.; BELOSHAPKO, P.A., prof., red. [deceased]; ZINAKIN, K.N., prof., red.; ZHORDANIA, I.F., prof., red.; LEEDEV, A.A., prof., red.; MANENKOV, P.V., prof., red.; STEPANOV, L.G., kand. med. nauk, red.; SYROVATKO, F.A., prof., red.; FIGURNOV, K.M., prof., red.; PORAY-KOSHITS, K.V., red.; LANKOVITS, A.V., red.; SENCHILO, K.K., tekhn. red.

[Multivolume manual on obstetrics and gynecology] Mnogotomnoe rukovodstvo po akusherstvu i ginekologii. Moskva, Gos.izd-vo med. lit-ry. Vol.6. 1961. 679 p. (MIRA 15:4)

1. Chlen-korrespondent Akademii meditsinskikh nauk SSSR (for Persianinov, Beloshapko, Figurnov).  
(OBSTETRICS—SURGERY) (GYNECOLOGY, OPERATIVE)

VARSHAVSKAYA, F.E.; KAZANSKAYA, N.I.

Management of labor in women with late toxemias of pregnancy. Vop.  
okh.mat.i det. 7 no.4:57-62 Ap '62. (MIRA 15:11)

1. Iz kafedry akusherstva i ginekologii Leningradskogo meditsinskogo  
instituta imeni I.P.Pavlova (zav. - prof. I.I.Yakovlev).  
(PREGNANCY, COMPLICATIONS OF) (LABOR (OBSTETRICS))

## KAZANSKAYA, N.S.

11 (2.4) PLATE 1 BOOK EXPLOITATION

SERV/2536

Moscow. Institut neftekhimicheskoy i gazonoy proizvodstvennosti.

Problemy nafti i gaza (Oil and Gas Problems) Moscow, Gosizdatkhimizdat, 1959.  
162 p. (Series: ISP: Trudy, vyp 24) Erreka sipp imenit. 2,000 copies printed.

Sponsoring Agency: Ministerstvo naftogo i gazonoy eksploatavaniya SSSR.

Editor: M. I. G. P. Margonovs'koye Tekh. Zashch. I. G. Radtsev; Editorial Board: I. P. Zhukov, Professor (karp. 2a); I. M. Kuryayev, Professor, A. A. Tikhonov, Candidate of Economic Sciences, V. N. Tikhonrov, Candidate of Technical Sciences; N. M. Charykin, Professor; V. F. Zhukov, Professor; I. A. Chashay, Professor; V. S. Dabakov, Professor; G. M. Panchenko, Professor.

**Purpose:** This collection of articles is intended for specialists in the petroleum and gas industry. It will also be of interest to scientific journals, teachers and students of universities, research institutes, teachers and students of vocational schools.

**Contents:** This collection of articles covers problems connected with natural gas and synthetic gas production. A number of articles are devoted to the study of regional oil- and gas-bearing zones, the crystalline beds underlying the Talysh-Mugan oil-prone region, the specificities of the tarpan depression, seismic prospecting, oil well logging, development of oil and gas fields, petroleum-bearing formations and their petrochemical characteristics, and petroleum engineering. Other articles deal with gas turbine engines and their possible use in oil and gas industry, the production of asphaltic compounds, the synthesis of a fluid exchange base to the organic catalysts, continuous cracking of heavy petroleum residues, (fluidic acid) water, the improvement of tube oil production, and the influence of oil on properties of lubricating oil and greases. The book contains a number of photographs, tables, flow sheets, and diagrams, some which does not receive detailed description and in interests of heavy petroleum industry, individual articles.

**Plenum R. N. Gas Turbine Engines and Prospects of Utilizing Them in Petroleum and Gas Industry** 246

**Khlebnikov, N. Z. Pichet'skoye, I. M. Tschalik, and Ye. N. Koglerov. Study of Physicochemical Properties of Practices and Low Polymerization Compounds of Catalysts by Catalysts, and Their Production** 257

**Sopilov, A. F., Ye. Ye. M., N. P. Ponomarev, I. V. S. Saven, M. T. Kurshev, and O. I. Smirnov. Present State of the Synthesis of Benzene and Benzene and Their Chemical Processing** 269

**Magazanik, V. I. Ionic Exchange Tars and Their Application to Organic Catalysis** 266

**Smirnov, E. L. (Deceased), A. I. Smirnov, Ye. V. Saldorich, N. P. Zaytsev, N. S. Iastrebova, V. N. Peter, A. S. Svircov, and L. I. Slobodova. Process of Continuous Coking of Heavy Petroleum Residue Carried Out Over a Powdered Coke** 277

**Chernoukhov, N. I., I. P. Sushkevich, A. V. Slobodova, O. G. Smirnov, L. P. Radov, N. P. Sushkevich, E. A. Chashay, L. M. Perkova, F. I. Klykova, M. M. Tikhonov, and N. V. Slobodova. Solubility of Hydrocarbon Oils in Organic Solvents and Possibility of Improving Their Manufacturing** 288

**Belikov, D. S. Synthetic Acid Esters and Their Influence on Properties of Tube Oil and Grease** 311

241 242

KAZANSKAYA, N.S.

Special features of the natural pastures and meadows of  
Kursk Province in connection with natural regionalization.  
Izv. AN SSSR Ser. geog. no.6:56-65 N-D '64 (MIRA 18:1)

1. Institut geografii AN SSSR.

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721310018-8

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721310018-8"

KAZANSKAYA, N. V.

USSR/Chemistry - Physical chemistry

Card 1/1 : Pub. 151 - 22/42

Authors : Kashtanov, L. I., and Kazanskaya, N. V.

Title : The mechanism of inhibiting action

Periodical : Zhur. ob. khim. 24/9, 1597-1599, Sep 1954

Abstract : The effect of presently used rubber oxidation inhibitors (agerite and niazone) on the rate of oxidation of sodium sulfite was investigated. It was found that phenol inhibits the oxidation of sulfurous anhydride lead sulfate, chloroform and rubber. Sulfurous anhydride inhibits the oxidation of phenol. The inhibiting effects of hydroquinone, aniline and other amines on the oxidation of rubber, bivalent lead, iron, etc. are explained. Twelve references: 5-USSR; 4-German; 2-USA and 1-French (1898-1949). Tables.

Institution : The S. Ordzhonikidze Engineering-Economics Institute, Moscow

Submitted : April 29, 1954

*KAZANSKAYA, N.V.*

USSR/Chemistry - Inhibition

Card 1/1 Pub. 147 - 3/27

Authors : Kashtanov, L. I., and Kazanskaya, N. V.

Title : Mechanism of the inhibiting effect of aromatic amines on the rate of oxidation of sodium sulfite

Periodical : Zhur. fiz. khim. 28/9, 1547 - 1549, Sep 1954

Abstract : Experiments showed that the mechanism of the inhibiting effect of aromatic amines consists in the formation of compounds between the inhibitor and the inhibiting substance. It was established that the stability of compounds formed between inhibitor and inhibited substance depends upon the polarity value of the inhibitor. The relation between the activity of the inhibitor and the value of the dipole moment of the inhibitor is explained. The effect of temperature on the inhibiting power of aromatic amines on the rate of sodium sulfite oxidation is described. Five USSR references (1935-1954). Tables; graphs.

Institution : The S. Ordzhonikidze Engineering-Economy Institute, Moscow

Submitted : June 13, 1953

*Kazanskaya, N. V.*

✓ Mechanism of inhibitor action. L. I. Kashtanov and N.

V. Kazanskaya (Eng. Econ. Inst., Moscow). *Zhur. Russ. Fiz.-Khim.-25*, 154-9 (1950); cf. *C.A.* 49, 2841e.—The rate of oxidation of  $\text{Na}_2\text{S}_2\text{O}_3$  in the presence of  $\text{HCl}$ , urotropine (I) and  $\text{Et}_2\text{O}$  (free of peroxide) was examined at 0.05-0.1% concn. of the inhibitors. The results indicate that  $\text{HCl}$  acts as an inhibitor more strongly than does I, but  $\text{Et}_2\text{O}$  was the most powerful inhibitor in this group. Since  $\text{Et}_2\text{O}$  also inhibits oxidation of  $\text{BaH}$  and  $\text{SnCl}_4$ , and since  $\text{HCl}$  also inhibits oxidation of  $\text{H}_2\text{S}$  and  $\text{FeCl}_3$ , whereas I inhibits oxidation of  $\text{H}_2\text{S}$ , a unity of mechanism of inhibitor action is suggested. The cause of inhibition may be a solvate complex or compd. formed by the substrate with the inhibitor.

G. M. Kosolapoff

*c2*

KAZANSKAYA N.V.

USSR/Kinetics - Combustion. Explosions. Topochemistry. Catalysis. B-9

Abs Jour : Referat Zhur - Khimiya, No 6, 1957, 18578

Author : L.I. Kashtanov, N.V. Kazanskaya.

Title : To The Question of Mechanism of Inhibition of Oxidation Process of Sodium Sulfite.

Orig Pub : Zh. fiz. khimii, 1956, 30, No 8, 1707-1709

Abstract : The inhibiting action of  $AlCl_3$ ,  $(C_2H_5)_2O$ ,  $C_6H_6$  and  $C_6H_5NO_2$  (inhibitor concentration 0.05 to 0.1%) on the oxidation process of  $Na_2SO_3$  by oxygen at  $180^\circ$  in presence of  $HCl$  was studied. The introduction of an inhibitor results in a great drop of oxidation speed during the first 15 to 20 minutes, after which a complete discontinuation of the reaction is observed. Mixtures of  $AlCl_3$  with  $C_6H_6$ ,  $(C_2H_5)_2O$  and  $C_6H_5NO_2$  affect stronger than each of them separately. The authors connect it with the increase of the inhibiting action with the increase of the inhibitor polarity observed previously (RZhKhim, 1955, 1833, 23290, 31255). Polar compounds of the type  $AlCl_3 \cdot C_6H_5NO_2$  are produced in this case.

Card 1/1

- 239 -

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721310018-8

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721310018-8"

KAZANSKAYA, O.B.; ROZENSHTEYN, D.I. [deceased]; FRENKEL', V.I.

Bibliography of works prepared by associates of the institute during  
the past 50 years. Trudy Gos. nauch.-issl. psichonevr. inst.  
no. 16:25-178 '58. (MIRA 13:10)  
(BIBLIOGRAPHY—NEUROLOGY)

KAZANSKAYA, O.B.

Bibliography of papers by workers of the Institute, published during  
1958-1960. Trudy Gos. nauch.-issl. psichonevr. inst. no.24:299-330  
'61. (MIRA 15:5)

(MENTAL ILLNESS--BIBLIOGRAPHY)  
(NERVOUS SYSTEM--DISEASES--BIBLIOGRAPHY)

SOVENTOVA, A.N.; KAZANSKAYA, O.P.

Significance of osteoplastic fixation of the spine in association  
with radical interventions in tuberculous spondylitis. Vest.khir.  
(MIRA 14:4)  
no.4:42-46 '61.

1. Iz Leningradskogo nauchno-issledovatel'skogo instituta khirur-  
gicheskogo tuberkuleza (dir. - prof. P.G. Kornev).  
(SPINE—TUBERCULOSIS)

KAZANSKAYA, T. B.

"The Relation of the Formation of Lactic Acid to the Development of Thermobacterium Cereals." Sub 29 Jun 51, Inst of Microbiology, Acad Sci USSR.

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

AGATOV, P.A., KAZANSKAYA, T.B.,

Physiology of *Actinomyces streptomycini* and its relation to streptomycin production. Report No.3: Dynamics of nitrogen-containing substances in the development of *Actinomyces streptomycini* on a medium containing corn extract [with summary in English]. *Antibiotiki*, 3 no.3:28-30 My-Je '58 (MIRA 11:7)

1. Institut mikrobiologii AN SSSR.

(*ACTINOMYCES*, culture,  
streptomycini, nitrogen-containing substances in cultures  
containing corn extract (Rus))  
(*NITROGEN*, metabolism,  
in *Actinomycetes streptomycini* cultures containing corn  
extract in medium (Rus))

AGATOV, P.A.; KAZANSKAYA, T.B.

Relation of physiology to streptomycin synthesis in *Actinomyces streptomycini*; dynamics of nitrogen-containing substances in the development of *Actinomyces streptomycini* on a synthetic medium. (MIRA 12:11)  
Antibiotiki 3 no.5:31-33 S-0 '58.

1. Institut mikrobiologii AN SSSR.  
(ACTINOMYCES, culture,  
growth of *Actinomyces streptomycini* in nitrogen  
containing synthetic media (Rus))  
(NITROGEN, eff.  
on *Actinomyces streptomycini* growth in synthetic  
media (Rus))

KAZANSKAYA, T.B.

Conference in memory of T.A. Tauson. Mikrobiologija 27 no.5:660  
S-0 '58 (MIRA 11:12)  
(TAUSON, TAISIIA ALEKSEEVNA, 1899-1953)

17(2)

AUTHOR:

Kazanskaya, T. B.

SOV/20-125-3-51/54

TITLE:

The Effect of Soya-Bean Oil and of Its Components Upon the Production of Streptomycin (Vliyanie soyevogo masla i yego komponentov na streptomitsinoobrazovaniye)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 3, pp 561-563  
(USSR)

ABSTRACT:

In recent years, strains of *Act. Streptomycini* were obtained by selection, which produce large amounts of streptomycin on a culture medium of soya-bean flour. As is known, this flour contains 1% oil (Ref 1). Experiments have proved that the elimination of oil reduced the formation of streptomycin (in accordance with reference 2). Since in reference 2 *Streptomyces griseus* is concerned the author decided to investigate the effect of soya-bean oil upon *Act. Streptomycini*. Tables 1 and 2 present the principal results (maximum quantities of streptomycin and final pH values). The experiments give the best streptomycin yields if degreased soya-bean flour with palmitic acid or soya-bean oil was used for the production of the culture media. The experiments with the strain PS-1 of *Act. Streptomycini* furnished the following

Card 1/2

The Effect of Soya-Bean Oil and of Its Components  
Upon the Production of Streptomycin

SOV/20-123-3-51/54

results: 1) On culture media with degreased soya-bean flour the production of streptomycin was reduced by the 2-3-fold. 2) On the addition of palmitic acid or soya-bean oil the streptomycin quantity was increased by the 3-3.5-fold and attained 80-90% of the yield of unchanged flour. V. N. Shaposhnikov, Academician, supervised these investigations. There are 2 tables and 2 references, 1 of which is Soviet.

ASSOCIATION: Institut mikrobiologii Akademii nauk SSSR (Institute of Microbiology, Academy of Sciences, USSR)

PRESENTED: August 7, 1958, by V. N. Shaposhnikov, Academician

SUBMITTED: August 5, 1958

Card 2/2

KAZANSKAYA, T.B.; ANDREYEVA, Ye.A.

Effect of nitrogen fractions of soya flour and certain amino acids  
on growth and the biosynthesis of streptomycin. Trudy Inst.  
mikrobiol. no. 6:225-233 '59. (MIRA 13:10)

1. Institut mikrobiologii AN SSSR.  
(AMINO ACIDS) (SOY-BEAN FLOUR) (STREPTOMYCIN)

AGATOV, P.A.; KAZANSKAYA, T.B.

Use of vegetable raw material in streptomycin production. Mikro-  
biologiya 28 no.6:858-862 N-D '59. (MIRA 13:4)

1. Institut mikrobiologii AN SSSR.  
(STREPTOMYCIN chem.)

17(2,12)

AUTHORS:

Shaposhnikov, V. N., Academician,  
Kazanskaya, T. B.

SOV/20-127-5-51/58

TITLE:

Interrelations Between the Chemical Composition of Soy-bean  
Meal Fractions and Streptomycin Formation in *Actinomyces*  
*streptomycini*

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 5, pp 1117-1120  
(USSR)

ABSTRACT:

Soy-bean oil and palmitic acid as well as the basic amino acids and leucine stimulate the streptomycin formation by *Act. streptomycini* LS-1 (Ref 1). The above data were, however, insufficient for the establishment of a synthetic culture medium for this strain. Therefore the authors investigated various amino acid fractions of the hydrolysates of soy-bean meal in order to prove the connection between the chemical composition of these fractions and the streptomycin formation. The following mixture (in %) served as culture medium: glucose 2,  $(\text{NH}_4)_2\text{SO}_4$  0.3, NaCl 0.25,  $\text{KH}_2\text{PO}_4$  0.05,  $\text{CaCO}_3$  0.3, and distilled water. 2% soy-bean meal or another organic substance containing 112 g total nitrogen per 100 ml

Card 1/4

Interrelations Between the Chemical Composition of  
Soy-bean Meal Fractions and Streptomycin Formation in  
Actinomyces streptomycini

SOV/20-127-5-51/58

culture medium (like in soy-bean meal) were added. In the latter case also an addition of inosite,  $MgSO_4$ , and of trace elements was used. 2 ml of a 72 - 96 hours old culture of the LS-1 strain from the Vsesoyuznyy nauchno-issledovatel'skiy Institut antibiotikov (All-Union Scientific Research Institute of Antibiotics) were sown on the culture medium. Hydrolysates from degreased soy-bean meal were produced by  $H_2SO_4$  and HCl (A. N. Belozerskiy and N. I. Proskuryakov, Ref 2) as well as by NaOH. After the removal of humins and  $NH_3$ , the hydrolysates were separated into 2 fractions: (a) into basic amino acids, (b) into monoamino acids. Streptomycin was determined by Bac. mycoides as experimental object. Nitrogen was determined in either fraction (Table 1). These data show that the hydrochloric acid hydrolysates contain more amino acid nitrogen than those obtained by  $H_2SO_4$  and NaOH. The ratio between the basic amino acids and the monoamino acids was highest in the fractions obtained by alkaline hydrolysis. The results of the

Card 2/4

Interrelations Between the Chemical Composition of  
Soy-bean Meal Fractions and Streptomycin Formation  
in *Actinomyces streptomycini*

SOV/20-127-5-51/58

analyses agreed with the data of K. G. Ioffe and Ye. A. Yermakova. Table 2 shows that the monoamino acids are more favorable for the growth of Actinomycetes, whereas the basic amino acids stimulate the streptomycin formation. Since the detection of a possibly simple culture medium was the object of these experiments the above experiments were not continued. The following culture medium is recommended for the preliminary physiological investigation of the LS-1 strain: (in %) proline 0.92, glucose 2,  $(\text{NH}_4)_2\text{SO}_4$  0.3, NaCl 0.25,  $\text{KH}_2\text{PO}_4$  0.1, inosite 0.025,  $\text{MgSO}_4$  0.1,  $\text{MnSO}_4$ ,  $\text{ZnSO}_4$ , and  $\text{FeSO}_4$  0.0001 each. The biomass amounts on the culture medium to 800 mg-%; 1300-1400  $\mu\text{g}/\text{ml}$  streptomycin are produced. Another paper will deal with the problem of the proline effect and other compounds of the pyrrole group. The following conclusions are drawn from the results: (1) The hydrolysate fractions of soy meal containing basic amino acids consist of arginine, histidine, lysine, and proline. (2) These fractions are more

Card 3/4

Interrelations Between the Chemical Composition of  
Soy-bean Meal Fractions and Streptomycin Formation  
in *Actinomyces streptomycini*

SOV/20-127-5-51/58

favorable for the streptomycin production by the strain LS-1  
than the monoamino acid fractions. There are 2 tables and  
7 references, 6 of which are Soviet.

ASSOCIATION: Institut mikrobiologii Akademii nauk SSSR (Institute of Micro-  
biology of the Academy of Sciences, USSR)

SUBMITTED: June 6, 1959

Card 4/4

17(2)

SOV/20-128-4-57/65

AUTHORS: Shaposhnikov, V. N., Academician, Kazanskaya, T. B.,  
Poltava, I. G.TITLE: The Effects of Compounds of the Pyrrole Group on the Development  
of *Actinomyces streptomycini*PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 4, pp 840-842  
(USSR)ABSTRACT: The fungus mentioned in the title grows well on a medium containing one single nitrogen source, namely the amino acid proline (of the pyrrole group (I)); physiologically active substances containing one pyrrole ring ((II)-(VIII)) are mentioned. The problem still to be solved is, whether *Act. streptomycini* makes use of the pyrrole ring or whether a pyrrole ring which is connected with a certain atom group, is required for the development of this fungus. For this purpose experiments with some of the mentioned compounds had to be made. Earlier experiments with oxyproline showed that this substance alone, in contrast to proline, favors the growth of *Actinomycetes*. A list of publications (Refs 2-6) is given which shows that there are hardly any data on the subject concerned. Therefore the effect mentioned in the title

Card 1/3

SOV/20-128-4-57/65

The Effects of Compounds of the Pyrrole Group on the Development of Actinomycetes *streptomycini*

is meant to be explained for the first time by the authors. Strain LS-1 from the Kiyevskaya selektsionnaya stantsiya (Kiyev Selection Station) growing on a mineral glucose containing medium, is used for this purpose. 2% of soya bean flour or amino acid or of any pyrrole compound were added which corresponded to a nitrogen content of 112 mg per 100 ml. For the method see reference 1. The effects of succinamide (VIII), succinimide (VII), pyrrolidine (II) and others, on the vital activity of strain LS-1 were examined. Proline (III) and oxyproline (IV) were also used for comparison. Table 1 shows the results. On the basis of these results, the authors arrived at the following conclusions: 1) synthetic media, containing proline, histidine with lysine and also one of the pyrrole group: (III), (VII), or (VIII), favor the growth of the fungus and the formation of streptomycin. The yields of the latter amounted to 74-84% of those with soya bean flour. 2) (IV), the only nitrogen source, favors the growth but stimulates the development of the antibiotic only weakly (Table 1). Added to media with basic amino acids (IV) also favors growth, but reduces the streptomycin yield (Table 2

Card 2/3

SOV/20-128-4-57/65

The Effects of Compounds of the Pyrrole Group on the Development of Actinomyces streptomycini

There are 2 tables and 6 references, 1 of which is Soviet.

ASSOCIATION: Institut mikrobiologii Akademii nauk SSSR  
(Institute of Microbiology of the Academy of Sciences, USSR)

SUBMITTED: July 2, 1959

Card 3/3

KAZANSKAYA, Lyudmila Nikolayevna, kand. biolog. nauk; VOL'PER, I.N., dots.,  
red.; SHILLING, V.A., red. izd-va; GVIITS, V.L., tekhn. red.

[Role played by vitamins in increasing the food value of bakery and  
confectionery products; transcript of a report presented at the  
Leningrad Center for Scientific and Technical Propaganda at a seminar  
of baking industry workers] Znachenie vitaminov v povyshenii pishche-  
voi tsennosti khlebobulcchmykh i konditerskikh izdelii; stenogramma  
doklada, prchitannogo v LDNTP na seminare rabotnikov khlebopекarnoi  
promyshlennosti. Pod red. I.N.Vol'pera. Leningrad, Leningr. Dom  
nauchno-tekhn. propagandy, 1961. 35 p. (MIRA 14:7)  
(Baked products) (Vitamins)